

MEASURES OF CENTRAL TENDENCY PRACTICE QUIZ

1. **Tomato Plants** The heights (in inches) of nine tomato plants are ~~28~~, ~~34~~, ~~47~~, ~~40~~, ~~38~~, ~~28~~, ~~18~~, ~~40~~, and ~~36~~.

a. What is the range of the tomato plant heights?

$$47 - 18 = 29$$

b. Find the mean, median, and mode(s) of the tomato plant heights.

$$\text{Mean} = 34.\bar{3}$$

$$\text{Median} = 36$$

$$\text{Mode} = 28 \text{ and } 40$$

~~18~~, ~~28~~, ~~28~~, ~~34~~, ~~36~~, ~~38~~, ~~40~~, ~~40~~, ~~47~~

$$\frac{309}{9} = 34.\bar{3}$$

2. The median of a numerical set of data is the middle number when the numbers are written in numerical order.

3. The range of a numerical set of data is the difference of the greatest value and the least value.

4. The mode of a numerical set of data is the value that occurs most frequently.

5. Find the **mean, median, mode** and **range** of the following data:

~~17~~, ~~32~~, ~~17~~, ~~30~~, ~~51~~, ~~17~~, ~~33~~, ~~27~~, ~~40~~, ~~21~~, ~~28~~, ~~20~~

$$\text{Mean} = 28.\bar{3} \quad \text{Median} = 28.5 \quad \text{Mode} = 17 \quad \text{Range} = 36$$

$$\frac{340}{12}$$

~~17~~, ~~17~~, ~~17~~, ~~21~~, ~~27~~, ~~28~~, ~~29~~, ~~30~~, ~~32~~, ~~33~~, ~~40~~, ~~51~~

6. After taking four math tests, DaQuan has an average score of 67%. He hopes to improve his average to a C (72.5%) before progress reports are sent home. What is the lowest score DaQuan can earn on his fifth (and last!) math test to improve his average score to 72.5%?

$$\frac{S}{4} = 67$$

$$5. \frac{268 + x}{5} = 72.5$$

$$S = 268 \text{ pts earned so far}$$

$$268 + x = 362.5$$

$$x = 94.5$$

7. A team of twelve landscapers earns an average salary of \$61,000. A thirteenth landscaper with a salary of \$55,000 joins the team. What is the team's new average salary?

$$\frac{12(61,000) + 55,000}{13} = \$60,538.46$$

8. Find the missing number from the set that has a mean of 43:
37, 90, 18, 40, ?

$$\frac{37 + 90 + 18 + 40 + x}{5} = 43 \quad 185 + x = 215 \quad x = 30$$

9. A class is graded so that it is 10% homework, 60% tests, and 30% final exam. If I got 100% in homework, 82% on my tests and 70% on my final, what is my grade in the class?

$$100(.1) + 82(.6) + 70(.3) = 80.2\% \quad B-$$

10. The table to the right shows the number of pencils students lost in a week.

- a. Find the mode number pencils lost weekly.

1

- b. Find the mean number of pencils lost weekly.

$$\frac{20(0) + 65(1) + 55(2) + 23(4)}{20 + 65 + 55 + 23} = \frac{267}{163} = 1.64$$

Number of Students	Number of Pencils Lost Weekly
20	0
65	1
55	2
23	4

11. A union and a company owner are fighting over wages. Right now the employee's wages are \$28,000, \$32,500, \$28,000, \$41,500, \$30,000, and \$68,000. Find the mean, median, and mode of the data.

$$28k, 28k, 30k, 32.500, 41.500, 68.000$$

Mode = 28,000 Mean = \$38,000 Median = \$31,250

- a. Which measure would the union use to argue for higher wages and why?

Mode b/c it's the lowest

- b. Which measure would the owner use to refuse the union's argue for higher wages and why?

Mean b/c it's the highest